

**MODIFY BLH-5679**  
**CUMULUS LICENSING LLC**  
**WNUQ (FM) RADIO STATION**  
**CH 269A - 101.7 MHZ - 6.0 KW**  
**ALBANY, GEORGIA**  
**September 2006**

**EXHIBIT D**

**Radio Frequency Assessment**

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. §1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby contributing stations, specifically the nearby WALG (AM) facility<sup>1</sup>, and utilizes the appropriate formulas contained in the OET Bulletin.<sup>1</sup>

The WNUQ antenna system is mounted with its center of radiation 99.0 meters (324.8 feet) above the ground at the existing tower location and operates with an effective radiated power of 6.0 kilowatts in the horizontal and vertical planes (circularly polarized). At 2.0 meters, the height of an average person above the ground at the base of the tower, the WNUQ antenna system contributes  $0.0256 \text{ mw/cm}^2$ .<sup>2</sup> Based on exposure limitations for a controlled environment, 2.6% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 12.8% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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- 1) For the purposes of this review, we will assume WALG and WNUQ are co-located. It is noted that the fences around the FM tower and both AM towers are at minimum of 1.22 meters (4.0 feet). As such, the exposure at the base of any of the towers, theoretically, would be the same.
  - 1) The contribution of the FM facility was calculated using the FMModel program. A single bay EPA dipole antenna was used for calculation purposes, unless otherwise noted.
  - 2) This level of field occurs at 30.0 meters out from the base of the tower and is considered worst case.

The WALG AM two tower directional radiators operates with a nominal power of 5.0 kilowatts<sup>3</sup> on 1590 kHz with an electrical height of 110.0°. <sup>4</sup> Each tower is fenced, not allowing access any closer than 1.22 meters (4.0 feet) out from the base of the tower. At this distance, the WALG facility contributes an electrical field of 290.3 V/m and a magnetic field of 1.194 A/m. For controlled environments, this results in an electrical field contribution of 47.3% and a magnetic field contribution of 73.2%. As this station operates above 1340 kHz, the uncontrolled environment contribution is different than the controlled environment. For the uncontrolled environment, this results in an electrical field contribution of 56.0% and a magnetic field contribution of 86.7%. Since the contribution of the magnetic field in the uncontrolled environment is the highest, it is considered worst case.

Combining the contributions of WNUQ and WALG, a total of 99.5% for the uncontrolled environment is reached at the fence perimeter around the base of the tower. Since this level for uncontrolled environments is well below the 100% limit defined by the Commission, the WNUQ facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, Cumulus has posted warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Cumulus will reduce the power of the WNUQ facility or cease operation, in cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.

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- 3) The night facility for WALG uses the same two towers, with a power of 1.0 kilowatt. As such, the daytime operation was considered as a worst case contributor.
- 4) As each radiator is 110.0°, the contribution of each would be the same assuming each had the maximum amount of power (worst case contribution).